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Vol. VI NOVEMBER, 1919 No. 9

BOSTON SOCIETY OF CIVIL ENGINEERS
FOUNDED 1848

PROCEEDINGS

PAPER IN THIS NUMBER.

"The Industrial Unrest." By Charles H. Eglee.

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Contributors are hereby notified that proof will not be submitted to them for examination unless requested before the 10th of the month preceding the month of publication.

MINUTES OF MEETING.

BOSTON, October 15, 1919. — A regular meeting of the Boston Society of Civil Engineers was held this evening at Chipman Hall, Tremont Temple, and was called to order at eight o'clock by the Senior Vice-President, Leonard C. Wason.

There were sixty members and visitors present.

The record of the September meeting was read and approved.

The Secretary for the Board of Government reported that it had elected to membership in the grades named the following candidates:

Members — Robinson Abbott and Edward H. Clarkson, Jr.

Junior — Leo M. Brown.

The Secretary submitted for Mr. George S. Rice, the committee appointed for the purpose, a Memoir of Lewis Frederick Rice, a past president of the Society who died April 20, 1909. The memoir was accepted and ordered printed in the JOURNAL of the Society.

The death was announced of Edward S. Shaw, a member of the Society who died October 3, 1919, and by vote the President was requested to appoint a committee to prepare a memoir. The President has appointed Mr. Frank L. Fuller to serve as that committee.

The paper of the evening was by Charles H. Eglee, and was entitled, "The Industrial Unrest; a Short Study of Present Conditions in Industry, with Some Suggestions." Mr. Eglee presented some reasons why industrial relations are so greatly disturbed; he also described some methods that are now in operation to correct some of the present conditions and stated some principles that are being worked out in practice by our most advanced industrialists.

A most interesting discussion followed, in which Messrs. L. J. Johnson, F. B. Sanborn, J. R. Nichols, J. E. Titus, S. E. Thompson, E. S. Larned, R. A. Hale and others of the Society took part. Mr. G. Edgar Folk, Industrial Secretary of the Y. M. C. A. at Lawrence, also spoke interestingly.

Adjourned.

S. E. TINKHAM, *Secretary.*

APPLICATIONS FOR MEMBERSHIP.

[November 15, 1919.]

THE By-Laws provide that the Board of Government shall consider applications for membership with reference to the eligibility of each candidate for admission and shall determine the proper grade of membership to which he is entitled.

The Board must depend largely upon the members of the Society for the information which will enable it to arrive at a just conclusion. Every member is therefore urged to communicate promptly any facts in relation to the personal character or professional reputation and experience of the candidates which will assist the Board in its consideration. Communications relating to applicants are considered by the Board as strictly confidential.

The fact that applicants give the names of certain members as reference does not necessarily mean that such members endorse the candidate.

The Board of Government will not consider applications until the expiration of twenty (20) days from the date given.

CAIRD, ALEXANDER WINTON, Boston, Mass. (Age 24, b. Chicago, Ill.) Student at Worcester Polytechnic Inst. during year 1914–15; graduate of Mass. Inst. of Technology, January, 1918, civil engineering course, degree of S.B.; completed fifteen weeks' course in naval architecture at M. I. T. in May, 1918. From May, 1918, to August, 1919, with U. S. Navy Dept. at Boston Navy Yard; from September, 1919, to date, with Stone & Webster. Refers to H. P. Eddy, G. L. Hosmer, A. G. Robbins, G. E. Russell and C. M. Spofford.

DRAKE, CARL STANWOOD, Boston, Mass. (Age 44, b. Boston, Mass.) Educated in Boston public schools, including English High. From June, 1893, to February, 1894, rodman with sewer division, city of Boston; from April, 1894, to August, 1895, rodman and transitman with Aspinwall and Lincoln; from August, 1895, to August, 1898, rodman and transitman in charge of party with Boston Transit Comm.; from August, 1898, to date, instrumentman, assistant engineer and, at present, assistant district engineer with sewer service, city of Boston. Refers to T. F. Bowes, E. S. Davis, E. S. Dorr, C. R. Gow, E. F. Murphy and F. C. Shepherd.

LOVEJOY, FREDERICK ALDEN, Boston, Mass. (Age 52, b. Roxbury, Mass.) From 1886 to 1894, rodman, transitman and chief of party, on street widenings, etc., with Boston City Surveyor; in 1894, in charge of field work, preliminary surveys for Metropolitan Boulevard, Stoneham and Wakefield; in 1895, in charge of plane table party on topography of Blue Hills Reservation; from 1895 to date, chief of party, first assistant to district engineer, and, at present, assistant district engineer with sewer service, city of Boston. Refers to H. K. Barrows, T. F. Bowes, J. E. Carty, E. S. Dorr, W. E. Foss and L. B. Manley.

MONAGHAN, JOHN EDWARD LAURENCE, Boston, Mass. (Age 42, b. Arlington near Oldham, England.) Graduate of Mass. Inst. of Technology 1906, degree of S.B. From 1906 to 1915, assistant engineer; from 1915 to 1916, assistant district engineer; and from 1916 to date, district engineer with sewer service, city of Boston. Refers to T. F. Bowes, J. E. Carty, E. S. Dorr and D. P. Kelley.

THOMAS, HOWARD CUSHING, Newton Highlands, Mass. (Age 26, b. Cambridge, Mass.) Graduate of Mass. Inst. of Technology, 1915, civil engineering course. During summers of 1912 to 1916, inclusive, transitman, chief of party and draftsman with W. W. Wight, C.E., Wellesley Hills; from 1915 to 1916, assistant in civil engineering department, Mass. Inst. of Technology; during summer of 1917, assistant to supervising engineer, Childs Co., New York, N. Y.; from 1916 to 1917, instructor at Coöperative Engineering School, Northeastern College, Boston; from 1917 to 1918, asst. professor of civil engineering at Northeastern College; from June, 1918, to September, 1919, draftsman and designer with Fay, Spofford & Thorndike; from September, 1919, to date, designer with Kearns Const'n Co. Elected a junior,

January 27, 1915, and now desires to be transferred to grade of member. Refers to W. W. Bigelow, C. A. Farwell, F. L. Fuller, H. F. Sawtelle and C. M. Spofford.

TOZZER, ARTHUR CLARENCE, Brookline, Mass. (Age 40, b. Lynn, Mass.) Graduate of Dartmouth College, 1902, degree of B.S., and of Thayer School of Civil Engineering, 1903, degree of C.E. From February to September, 1902, transitman for contractors on dry dock of Boston Navy Yard; from May, 1903, to January, 1904, engineer with French & Bryant, Brookline; from January, 1904, to January, 1905, assistant superintendent on pneumatic foundation work with Foundation Co. of New York; from January to November, 1905, assistant superintendent with S. Pierson & Son, Inc., on East River Pennsylvania R. R. tunnels; from November, 1905, to date, with Turner Const'n Co., of which he is now vice-president and general manager in charge of all New England work; from April, 1918, to July, 1919, was executive manager in charge of construction of Army Supply Base, Brooklyn, N. Y. Refers to F. H. Fay, C. R. Gow, C. T. Main, H. C. Robbins and H. F. Sawtelle.

TRASK, WARREN DUDLEY, Somerville, Mass. (Age 33, b. Augusta, Me.) Graduate of Univ. of Maine, 1908, civil engineering course. From 1908 to 1909, engaged in timber surveys in northern Maine; from 1909 to 1910, draftsman and chief of party on irrigation project at Valier, Mont., for Conrad Water & Land Co.; from 1910 to 1911, draftsman and instrumentman with U. S. Reclamation Service on Sun River project at Fort Shaw, Mont.; from 1911 to 1912, city engineer of Augusta, Me.; from 1913 to 1914, Street Commissioner of Augusta, Me.; in charge of highway and sewer construction and maintenance; from 1915 to 1916, Dep. Treas. of state of Maine; from 1917 to date, assistant engineer with Fay, Spofford & Thorndike, with exception of three months in 1918 with Monks & Johnson, as inspector on construction work at Squantum Destroyer Plant. Refers to F. H. Fay, C. R. Gow, B. A. Rich, H. F. Sawtelle, S. H. Thorndike and C. M. Spofford.

LIST OF MEMBERS.

ADDITIONS.

BROWN, LEO M. ..... 24 Garfield St., Detroit, Mich.
DICKSON, ARTHUR D. ..... 149 Austin St., Cambridge, Mass.
FOX, WALTER S. ..... 101 Milk St., Room 914, Boston, Mass.

CHANGES OF ADDRESS.

ALLEN, CHESTER S. ..... 25 Duffield Rd., Auburndale, Mass.
ALLEN, ELMER F. ..... 30 Evans Way, Boston, Mass.
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BURRILL, NATHAN C. ..... 3 Central Pl., Newburyport, Mass.
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EWING, WILLIAM C. ..... 3517 Clifton Ave., Cincinnati, Ohio.

FOLEY, ERNEST L. ..... 550 Centre St., Newton, Mass.
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HOBSON, GEORGE F. ..... Computing Div., Supervising Architect's Office, Treasury Dept., Room 439, Washington, D. C.
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OSBORN, JOHN F. ..... 314 Harvard St., Cambridge, Mass.
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SNOW, LESLIE W. ..... 143 East 39th St., New York, N. Y.
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THORPE, GEORGE H. ..... 504 Edgewood St., Hartford, Conn.
TUCKER, EDWARD A. ..... 101 Milk St., Boston, Mass.
TUCKER, HERMAN F. ..... 616 11th St., North, Seattle, Wash.
TURNER, CHARLES C. ..... 104 Elmwood Ave., Wollaston, Mass.
VAN DER PYL, EDWARD ..... Care Norton Co., Worcester, Mass.
WADE, CLIFFORD L. ..... Wadsworth Chambers, Suite 33, Cambridge, Mass.
WALKER, FRANK B. ..... 1 Beacon St., Boston, Mass.
WANSKER, HARRY A. ..... 76 Quint Ave., Allston, Mass.
WEBB, DEWITT C. ..... 24 Old Beach Rd., Newport, R. I.
WESTON, ARTHUR D. ..... 141 State House, Boston, Mass.
WHITNEY, RALPH E. ..... 98 Mountfort St., Suite 6, Boston, Mass.
WOODBURY, STANLEY W. ..... 9 Barstow St., Salem, Mass.

DEATHS.

GROVER, EDMUND ..... October 20, 1919.
MANLEY, HENRY ..... October 28, 1919.
WOOD, IRVING S. ..... October 20, 1919.

EMPLOYMENT BUREAU.

THE Board of Government maintains an employment bureau for the Society, to be a medium for securing positions for its members and applicants for membership, and also for furnishing employees to members and others desiring men capable of filling responsible positions.

At the Society rooms two lists are kept on file, one of *positions available* and the other of *men available*, giving in each case detailed information in relation thereto.

Men Available.

489. Age 30. Student for three years at Univ. of Nevada. Has had about six years' experience, including two years on railroad location and construction for Western Pacific R. R., one year as inspector and transitman on reënforced concrete bridge construction, and one year on canal and railroad work in Mexico; has done military mapping with regular army engineers; served one and one-half years as officer in artillery of U. S. Army. Desires position as transitman, levelman, inspector or foreman. Salary desired, $30 per week.

490. Age 20. Has high school education supplemented with I. C. S. course in civil engineering and three months at Harvard Univ. in S. A. T. C. Has had four years' experience as rodman, draftsman and instrumentman on general civil engineering work, including land court surveys and subdivisions and hydrographic and topographic surveys; has also served as inspector on dredging work. Character of immediate work immaterial; desires to work eventually into position as engineer or assistant on reënforced concrete construction.

491. Age 55. Graduate of Mass. Inst. of Technology. Has had wide experience in municipal work, chiefly on sewers, parks, bridges and special investigations; has also had one year on topographic work with U. S. Geological Survey and about four years with firm of consulting engineers on studies and designs for system of sewers and storm water drains, on concrete bridge design and on concrete buildings and wharves. Would prefer position in Boston or vicinity. Salary desired, $225 per month.

NOTES FROM ENGINEERING COUNCIL.

Engineers in the 1920 United States Census.

As a result of Engineering Council's request to the director of the Census, the National Service Committee has been successful in effecting a reclassification of engineers so that all technical engineers will be listed as such, separately and distinctly from the non-technical engineers. Thus, the next census will bring an enumeration of all technical engineers together as one unit under the main headings of Civil, Mechanical, Electrical and Mining. Architects will also be enumerated separately.

This will enable the engineering profession, the Government or any other interested organization or person to know exactly how many technical men there are in the United States and in each state. Under separate headings the enumeration will also include non-technical engineers (stationary engineers, locomotive

drivers and other enginemen); but there will be no group heading for the latter, and in order to get the totals of non-technical engineers (enginemen) all of the various grades of this classification would have to be sorted out and added.

The National Service Committee has been working with the Bureau of Census in listing positions as they are commonly returned from the enumerators of the Census, so that only strictly technical engineers will be included in the list. Thus, there will be a cog for the technical engineers in the big census counting machines, to catch cards that are punched with their classification, and we shall know definitely for the first time just how many technical engineers there are in this country.

Of course it is understood that there are many practitioners of engineering who do not ordinarily classify themselves under any one of the four headings given above, and others there are whose practice extends into more than one field. More numerous headings or more complex classification is impractical in the work of the Census Bureau. It is believed that every professional engineer can, with very little violence to the facts, place himself in one of the broad classes adopted for the 1920 Census: Civil, Mechanical, Electrical, Mining. With the general coöperation of all engineers along these lines, a much better enumeration should result than in any preceding census.

LIBRARY NOTES.

Book Review.

"Vital Statistics: An Introduction to the Science of Demography," by George Chandler Whipple, professor of sanitary engineering in Harvard University; member of the Public Health Council, Massachusetts State Department of Health. New York, John Wiley & Sons, Inc., 1919. Flexible binding, xii+517 pp., 4.5 x 7 in., 63 figures. $4.00.

Reviewed by Robert Spurr Weston.*

As the author states in his preface, "This book is written for students who are preparing themselves to be public health

*Of firm of Weston & Sampson, Consulting Engineers, Boston.

officials." It defines statistics and shows the student how to apply the statistical method to vital facts, — how to express his meaning by figures, tables, curves and diagrams.

The three introductory chapters which pertain to the arithmetic and graphics of statistics, while not specifically interesting to engineers trained in their use, are nevertheless worth reading for their clearness of statement and fertility of illustration.

The fourth chapter describes the methods of enumeration and census taking, and the following chapter on " Population " is of value to sanitary and other engineers whose work considers the growth of communities.

The chapters which deal with death rates and the causes of death, both general and specific, and the methods of analyzing and valuing the same, are well done, as are also short chapters on " Life Tables " and the methods of insurance actuaries. While, near the beginning of his book, Professor Whipple instructs the reader in simple counting, near its end he elucidates the theories of probability and correlation, in an effective and practical way.

The style of the book is excellent. It is clear, and it teaches. Furthermore, the illustrations from so wide a range as Jaques' soliloquy from " As You Like It " and the report of the physician who gave " vital statistics " as a cause of death, introduce interest and even humor into a subject which, treated by less skillful hands, might increase the reader's own morbidity and introduce a new name in nosography.

The book is designed to teach, and does not pretend to be a compendium of vital statistics. However, it uses statistics of permanent value as illustrations of various methods, and in no case does it leave a subject with the reader without referring him to various sources of information, notably a bibliography in the appendix, which latter also contains drafts of model state health laws and a table of five place logarithms.

The chief accomplishment of the author, apart from bare statements of facts, is his skill in explanation, and the book ought to better the work of the vital statistician and hasten the passage of registration laws in those twenty-one states where not even deaths are recorded. The reviewer would like to see included

in a book of this kind descriptions of the map-and-pin and other mechanical methods of showing current facts. It would also seem judicious to include a table of cubes and squares, because the reader who has "forgotten" his logs. has probably "forgotten" his roots.

Recent Additions to the Library.

U. S. Government Reports.

Abstracts of Current Decisions on Mines and Mining, September to December, 1918. J. W. Thompson.

Explosives and Miscellaneous Investigations.

Financial Statistics of States, 1918.

Magnesium in 1918. Ralph W. Stone.

Motor Gasoline: Properties, Laboratory Methods of Testing and Practical Specifications. E. W. Dean.

Recovery of Zinc from Low-Grade and Complex Ores. Dorsey A. Lyon and Oliver C. Ralston.

Statistics of Railways in United States for 1916.

Vapor Pressure of Lead Chloride. E. D. Eastman and L. H. Duschak.

War Minerals, Nitrogen Fixation and Sodium Cyanide. Van. H. Manning.

(The) War with Germany: Statistical Summary. Leonard P. Ayres.

State Reports.

Massachusetts: Annual Report of Gas and Electric Light Commissioners for 1918.

City and Town Reports.

Boston, Mass. Summary of Remarks of Guy C. Emerson at meeting of North and South Shore Street Superintendents' Clubs, June 20, 1919, on subject of Bituminous Pavements.

Brockton, Mass. Annual Report of Board of Survey for 1918.

Brockton, Mass. Annual Report of City Engineer for 1918.

Brockton, Mass. Annual Report of Sewerage Commissioners for 1918.

Fall River, Mass. Annual Report of Watuppa Water Board for 1918.

Lowell, Mass. Annual Report of Commissioner of Water Works for 1918.

New York, N. Y. Annual Report of Board of Water Supply for 1918.

St. Louis, Mo. Annual Report of Water Commissioner for 1918.

Miscellaneous.

Carnegie Endowment for International Peace: Year Book for 1919.

Concrete Institute (London): Transactions: Vol. VI, Parts I and II; Vol. VIII; 1918. Gift of L. H. Allen.

LIBRARY COMMITTEE.

VAIL LIBRARY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

BY DOROTHY G. BELL, LIBRARIAN.

THIS library was collected in England by Mr. Dering, who became very much interested in electricity and had his bookseller send him everything relating to that subject. The collection comprises about twenty thousand volumes, including pamphlets and dissertations. There are books in many modern languages as well as early and rare books in Latin, some bound in vellum, and others in beautiful leather bindings. The rarities include such books as Gilbert's "De Magnete," 1500 (first edition); Aepinus's "Tentamen theoriæ electricitatis et magnetismi," 1759; Cabeo's "Philosophis magnetica," 1629. All subjects relating in any way to electricity are included, and in nearly every case are complete to the year 1912. Nearly all of the books relate to electricity, magnetism and electrical engineering, including alternating and direct currents, railways, telephone, telegraph, wireless, etc. In addition there are books on electro-chemistry, electro-metallurgy, electro-therapeutics, world expositions and electrical congresses. There is also a very interesting collection on the early developments in aviation.

In 1912, President Theodore N. Vail of the American Telephone and Telegraph Company purchased the library and very generously gave it to the Massachusetts Institute of Technology for the Electrical Engineering Department, first to be catalogued and then to be brought up to date. Recent books on electricity and electrical engineering are being added to make the library of the greatest possible use to the students in the Institute and all others interested in the study of electricity. The original collection is now catalogued, and about a thousand new books have been added. The Institute has given a large room in the main building for the Vail Library, and from thirty to forty readers may be accommodated at one time. Sixty-three periodicals are kept on file, many of which are not taken elsewhere in Boston.

The Vail Library is independent of the main Institute Library, and is a unique collection. It is the only electrical engineers' library of its kind in New England, and, as far as is known, the third in the United States. Such a collection of books on electricity and electrical engineering, offering as it does a wide and interesting field for research and study, is invaluable to Technology. The library is open to the public for reference and research.

The library itself is very attractive in appearance. Each book is numbered in gold with the seal (Vail Library) stamped above the number. The front cover of each book contains the Vail Library bookplate. This bookplate was designed by Sidney L. Smith, a noted Boston engraver, and bears a very fine portrait medallion of Mr. Vail. The words " Vail Library " are engraved above the portrait, and below is the inscription " Gift of American Telephone and Telegraph Company, Massachusetts Institute of Technology, 1912."

This gift is thus not only a great asset to the Institute and to its students but also to Massachusetts and its citizens.

Vol. VI NOVEMBER, 1919 No. 9

BOSTON SOCIETY OF CIVIL ENGINEERS
FOUNDED 1848

PAPERS AND DISCUSSIONS

This Society is not responsible for any statement made or opinion expressed in its publications

THE INDUSTRIAL UNREST: A STUDY OF PRESENT CONDITIONS IN INDUSTRY, WITH SOME SUGGESTIONS.

By Charles H. Eglee,* Member of Boston Society of Civil Engineers.

(Presented October 15, 1919.)

I am glad to be among you again after two years' sojourn in the sunny South. Glad to be free from the governmental restrictions and war exertions, and back in Boston where the wicked cease from troubling and the police can take a rest.

During this time a change has taken place in the feeling of all men who dispense the weekly pay-roll, as well as all those who receive the weekly envelope. It is a permanent change.

A change so great and an unrest so widespread that President Wilson has called to Washington fifty-seven representative men and women who are endeavoring to determine a remedy. If these representatives can unite upon a principle that can be generally accepted by the nation, the details of method and action can be worked out by the people, and the beginning of industrial peace is in sight. If not, each individual industrialist must work out his own problem in his own establishment, in his own way.

Those who have followed the profession of engineering know that all true results are based on fixed principles that are unchang-

* 715 Tremont Temple, Boston, Mass.

ing. The principle or law of the aëroplane always existed, but its practical application had to be proved by human effort, by experiment, by waste of money and material and even loss of life. The slide rule which we use every day always existed in principle and law, and this principle is absolute, yet ignorance or carelessness in the application of the law will cause trouble, mistakes and confusion. It is the province of engineers to discover the true principles of life and to devise correct methods of application; and, moreover, to endeavor to demonstrate their value in progress, in easier living conditions and in money value. An engineer must always study the commercial value of a dollar bill. For that reason I should like to talk to you about principle — not expediency; the right and wrong of our present conditions in industry, rather than a poultice or plaster to the visible symptoms of unrest; and I trust that a discussion may follow that will develop some profitable and progressive ideas.

We seem never to have proceeded with the labor question along the lines of underlying principle; always our decisions have been dictated by expediency or what to do at the moment to keep the wheels turning. Usually this has resulted in a fight and a compromise, with no one satisfied, and both sides preparing for a renewal of the struggle. The history of labor troubles since the days of the Pharaohs has been the same, and the end is not yet; though the way is gradually being made more clear.

Mr. R. J. Caldwell, special industrial commissioner to England from the United States, says:

"Signs of unrest in the ranks of labor are healthy signs of national growth. Peoples who are content with venison and a string of wampum do not survive.

"But the signs of unrest are equally signals of menace to that class of employers who refuse to grow, and who persist in the fallacy that labor is a commodity, instead of accepting the laborer as a human being."

This man cannot be called a crank or a *pro* labor advocate. He is president and owner of large New England interests, employing many men and women. He is one of the captains of industry, who have built up the nation's big business and who have been forced by the confusion of to-day to realize

that it is their distinct province to search out the cause and apply the remedy; for, failing this effort on the part of business leaders, the mass, who only want what they can get at the present moment, will be led by radical agitators into all kinds of excesses and destruction. We read and we see so much of disorganizing effort and propaganda that we imagine all labor to be in the wrong attitude. This is not true. The majority of men are more conservative; they look to the future and to the welfare of wife and child, and hope for an old age free from worry and strife. What we see and hear is the noise of an irresponsible minority; very noisy and very numerous, but still a minority.

We must remember the three great fears of the workingman, — the same fears we all have perhaps at times, but that have been with him always: The fear of sickness, the fear of unemployment, the fear of a poor old age. The self-seeking agitator preys upon these fears and teaches him two untruths — two lies that continually make trouble: First (I quote from the anonymous pamphlet, "The Truth about the Labor Question"), "Wages control all conditions," and, second, "Employers control wages"; and there is every appearance to the wage earner of truth in these statements. He knows his wages control his standard of living, and he knows that singly and alone he has no control over the wages paid him. He can take them or go without. It never occurs to him to think that his wages are controlled by natural laws of economics; of supply and demand and international trade. We cannot expect him to understand that his standard of living depends upon the efficient production of industry. He ought to know better, of course, but such things have never been explained to him and it is not difficult for him to believe that as capital controls wages it is a heartless tyrant and greedy oppressor. Here is the seed of Bolshevism, the dreams of madmen, — but not so mad but millions of men believe in them. The wonder is not at the number of converts, rather the wonder is that there are not more.

We are studying to ascertain what men really want. The ready answer is, more money; but the psychologists tell us this is not so. They have studied the basic impulses and instincts

of man, and have learned that there are two inseparable underlying instincts: First, the reproduction of the race, stronger than honor, life or morality; from this proceeds all other incentive to production. It is the joy as well as the necessity of creating something. Next is the instinct of worship; all men look up to something above themselves, an idea, a love, a force or principle or personality; — the psychologists tell us that a man who knows these instincts consciously or unconsciously, and can work upon them through others, is bound to lead men.

Men think they want money; they really want a chance for self-expression — to do the thing they *want* to do. Labor wants a voice in the management of its own life, — a method of self-expression and development, — not more wages, not shorter hours, least of all does it want any kind of coddling or uplift or charity. It doesn't want to be *given* something. It wants to be recognized as a man, a human being with thoughts and aspirations and ambitions, and it will *not* be bought and sold as a commodity or a slave or a menial; that day has gone forever, — that day of the sweatshop and the tuberculous tenement; that day of the despotic boss whose will was law.

Men in general are fair. Men are square dealers. If this were not so all business and society would be in ruins. Business men are finding this a pretty safe general rule, and many a big business is built up around this principle. Our national system of credit and our laws are based upon the character of the community. And yet, in most of our previous dealings with the labor question, we have missed the fundamental belief of every man in his own manliness. We have not believed, really believed, in a man's right to determine his own life and its conditions; his right to express his own opinions, of working out his own destiny often by mistakes and wrong methods; and as a result we have educated labor as a class; a class which when it takes its employer's money must be more or less subservient to that money. It won't do any longer in this country — Americans are fair-minded. Men, all men, want a square deal. That's all.

The principle of a square deal, however, has never been standardized. Clear, true justice of man to man has never been realized, for it is a constant progression or evolution, always

influenced by the opinion of the mass based upon its knowledge of what is right and what is wrong, this knowledge being gained by education and experience. Little by little we learn great truths and make them part of our united life. No man can truly say he is absolutely right in his idea of a square deal toward others, for our ideas of justice are changing and growing constantly toward higher and better levels as our vision broadens. Every progressive employer to-day is trying to give his men a square deal. He means to and he tries to, but he cannot always study his situation carefully enough — does not employ trained expert advice, and is often unwilling to depart from the traditions of the past or spend money and increase his overhead expense in order to install the methods of to-day. The big men are doing it; the smaller establishments in time will be obliged to do it. The more rapidly labor is educated in true economic lines, the more the benefits of industrial peace are made manifest, the sooner will Bolshevism be forgotten. The laborer has recently learned a great truth: that high wages defeat their own object and strikes do not help to reduce the high cost of living, for the increase to the consumer is greater than the increase of his wages; and that *he is the consumer*. This is a new, broad, illuminating viewpoint for labor; something it never thought of before.

The labor agitators, the radical Bolshevistic men who seek to overthrow all order and government, are sensing a change and are moving heaven and earth to get control of organized labor and prostitute it to their selfish ends, while the confusion of war conditions is among the people; but the sober element of the ranks of labor is beginning to think a little, and every time a stand is made based upon a true principle the mass of the people endorse that stand. The policemen's strike is an example. The principle at stake was the denial of the right to desert a public trust by a public official, and while the union tried to cloud the issue, Governor Coolidge and Commissioner Curtis stood firm and found the whole Commonwealth of Massachusetts as well as the sober element in the nation, strong in their support.

In the steel strike, Judge Gary is firm in his stand that 15 per cent. of unionized labor cannot dictate to 85 per cent. of the

Steel Company employees, and he would do wrong to permit it. The country and the loyal, satisfied employees of the company are upholding him, and Mr. Foster, the I. W. W. leader, will fail, and another lesson will be learned.

When men are so perverted in their ideas that they will elect such a representative as the marine workers sent to the United States Shipping Board it is time for our wisest leaders to heed carefully the sentiments he expresses. He said:

"I will not consent to any change in policy. I do not care how much suffering or inconvenience may come to anybody; as the more hardship there is inflicted on the people the better will be our chance of winning.

"I have no regard for the civil service law; the laws are of no use to workingmen, anyhow; the only laws that are any good are those passed by the unions, and can be repealed by the unions when necessary, without being subject to any interpretation by the courts."

There is only one answer to such statements. The answer of constituted authority; the answer given to Boston and Omaha, and ready for any other city or section that offends the law of the land. No leader, politician or agitator can teach such doctrine and endure while the majority of men are fair-minded — and the majority of men in this country *are* fair-minded. Such ideas are part of the madness of war.

Sir Robert Horne, the British minister of labor, says:

"The industrial unrest was due mainly to the following causes: The long strain of war, the nervous effect produced by the extreme industrial efforts of the nation, the disturbance of normal economic life, the rise in the cost of living, and in a certain measure an absorption into English thinking of the revolutionary movements of Europe."

The same is true in this country; and, in our difficult period of readjustment to normal conditions, the disorganizing and destructive forces of society, always discontented, have taken advantage of their opportunity. The answer is: Force when necessary to protect society and in support of the truth, and a constant progressive education based on principle instituted by our industrial leaders each in his own establishment in concerted, coöperative action with his men.

The number of systems, plans and experiments now being tried with the idea of giving labor a square deal are many and various; most of them good as systems, many of them working well in some establishments, while none of them *as a system* has proved a panacea for industrial woe; for in the last analysis it is the management behind the system and the principle at its foundation that really counts. Those based upon enduring principles accepted by all parties to the coöperative effort of production and with a personality behind them that will not yield to expediency, pull, influence or temporary advantage, are successful; all others are useless, and any system which is merely camouflage or a game of jollying the boys, is a disaster from the beginning. The much-talked-of shop committee is both damned and praised. The technical journals use considerable space in its discussion. Many experts say a shop committee is a sure method of delivering the management of the shop into the hands of radical labor leaders. But, what *kind* of a shop committee is under discussion? What is it for? What principles does it stand for? After these points are determined we shall think carefully about a shop committee, for it is like dynamite, — very useful indeed in its proper work, very destructive if carelessly or ignorantly handled.

It would be interesting if we had the time to review some of the various systems being tried in different establishments: Pension and old age insurance; investment in the stock of the company; education of foremen; scientific selection of workers; efficiency production with time and motion study; task and bonus systems; industrial democracy; personnel and service work. All of these are helpful and effective.

One very necessary part of the education of foreign labor is furnished by community service, a civic expansion of the War Camp Community Service. A national campaign is now in progress, and the manufacturers of Massachusetts have just pledged their quota of $200 000 to the national fund of $2 000 000 for the training of expert workers in local community fields, in Americanization, and the setting up of a backfire against anarchy and Bolshevism. To-day in New York a regular system of education in anarchy is in progress among children; in Sunday-

school they are taught hymns of hate against capital, and all the lies of Bolshevism are instilled into the receptive young minds. I am informed that there is such a school, or schools, in a city near Boston. I do not know that this is true, but if it *is* true in that city or any other New England city it is high time to look to it — now! for there is certain, sure danger ahead.

Community service and proper housing conditions go hand in hand, and the housing corporations are putting scientific ideas into community practice. Men must have homes; real homes, where wife and children can live in some degree of self-expression; where they can be a part of their town and take pride in their citizenship and so help to allay this red terror of Europe that we have let loose upon ourselves. We did not see the danger when we took in every kind of cheap labor and then exploited it to our own gain. We did not realize that the pauper we fed would bite the hand that gave it food — yes, and take the life blood of its benefactor. It is time now to halt, to soberly think of what America is and what we should like to have America become, — and then see that every one in America is a real American before we let any more red-handed trouble into our beloved land. Better keep out a few good ones, better make a mistake or two and debar a few friends, than to admit a flood of unknown peoples and allow them to do as they like after they are here. Never again will this be permitted.

Industrial peace and prosperity means the education of the employer no less than the education of the employee; capital and labor have the same interest and must learn this through efficient management; together must they work out our industrial salvation along lines of principles that each can accept. The first is justice, a square deal, — the basic principle of civilization and production; secondly, coöperation. The quality of success in team work is so well known that it needs no comment. Then service, production, — the joy as well as the necessity of creating something and of creating it together. Every man or woman must give some kind of service before he receives any payment whatever. The merchant must have goods collected before he can sell them. The professional man must educate himself in some efficient service

before his value is demonstrated. The laborer must finish his day's work before he is paid. It is a new word, "service," but when men realize that their wealth is created only by human effort applied to some natural gift, then they will know that the wealth is in the thing produced and every curtailment of production means loss of wealth, no matter how individual effort may be expressed in terms of money. If Germany is really and truly committed to ten hours of productive labor in every day, and is able to accomplish as much in one hour as the other nations, while we and our allies work eight hours and hope to work only six, we can now stop all worry and await our certain doom as calmly as may be.

The question naturally arises: Can these principles of justice, coöperation and service be practically applied to produce results? It is being done. The system is in successful operation with necessary forms, details and machinery; but woe betide the man who attempts it with form and machinery, but without the deep conviction of the principle. Men cannot be fooled. The simple mind of the simple man recognizes sincerity. He looks for a life of example and a strict adherence to a principle he himself advocates; also he wants to help work this out together with his boss and his fellow worker. No, the people cannot be fooled! The public is quick to recognize any enterprise that protects the right of the consumer, and the industry based on justice, coöperation and service will recognize those rights and will profit accordingly. In the last analysis it is the public that must be justly and efficiently served, and the day is rapidly approaching when no harmony between capital and labor will be permitted which has for its object the squeezing of the last possible dollar from the consumer. The public is patient and long-suffering, but when forced to act in self-defense, the punishment of the offenders is certain.

There is an establishment in this vicinity in which several thousand men and women are enjoying industrial happiness, earning good pay, participating in some manner in certain profits, and where there has never been any industrial difficulties. The business has grown until its name is a household word in New England. All because of the wisdom and the just

management of its founder and his methods of educating his helpers. They have every kind of service and personnel work and welfare activity, in all of which the worker has a voice. The management does not believe in debasing its helpers by giving them something. It gives them an *opportunity*, and together they are building an organization that is a quiet example of justice, coöperation and service. The public recognizes this and is doing its part to make the business very profitable.

I saw the working of these principles quite recently in a shipyard employing five hundred men, — the most irresponsible, uneducated, willful bunch of men ever collected together. They were gradually brought to such coöperative effort that production was greatly increased, costs materially reduced, the labor turnover ceased almost entirely, and while other yards were advertising and searching for men, there were always men who wanted to work in this yard; when a labor leader tried to unionize these workers he was put out by the men themselves, and in fact the life of that entire little town was changed; all without raising wages, paying bonuses or giving anybody anything. This meant work; one solid year of untiring, consistent effort in one direction; but it paid. Such effort will pay in any establishment; it may take a year, or two or three; it may cost some money in the beginning, but the result will pay liberally and will pay in money returns to workers and to management.

The president of the Philadelphia Rapid Transit Company says that company can afford to run cars with a five-cent fare because of the coöperative effort of the company officials and their employees. One of the steel company subsidiaries furnished a statement from its employees protesting against the steel strike, and it is a fact worthy of thought that ninety per cent. of the Americans employed remained loyal to their work, and the noisy, uneducated foreign element was manipulated by the radical agitator. The vice-president of this company recently made an address on "Getting Our Men to Help Us Manage." Coöperation does not mean the turning over of the management to the will of the workmen — for what is coöperation but the ideas and ideal of one man worked out by the coöperative effort

of his helpers, — an autocracy of principle in a democracy of endeavor? That is real coöperation.

Any worthy enterprise under a management big enough to carry out such principles will naturally attract trained helpers to execute the necessary details, and will pay everybody connected with it enough to demonstrate the value of industrial peace. Capital, management and workers will be unionized within the works, the labor turnover reduced, the disaffected and disgruntled taken care of by pressure from their fellows; the workers will learn that wages are paid from production and not from profits; much and in time perhaps all interference from the outside will be prevented, the executives relieved from a good deal of unnecessary detail and pressure with opportunity to use the time so saved in progressive work, and better and more loyal men and women will be developed.

This cannot be condemned as the dream of an idealist, for the principle is at work successfully in too many localities, and we have just witnessed a national example of the education of a whole people on a basis of principle. The morale of our army and navy, our labor and production, was based on principle; Honor, Duty, Country, spread by posters, by word of mouth, by public print, by regulation and discipline; *our* Honor, *our* Duty, *our* Country, — an autocracy of principle in a democracy of effort. If one half the money now spent in unproductive advertising could be spent in a similar effort for Justice, Cooperation and Service, we would have no more troublesome labor problems. If the membership of the present Industrial Conference at Washington can unitedly proclaim such principles and institute an educational propaganda to spread them among the people, they will accomplish a noble work, but if they develop a class war — if a certain class, any class, shall dominate, the struggle will but grow more bitter and more determined.

There is no good reason why a thousand or a million men and women cannot be educated to economic truth when they know they are personally interested in that truth. Once get the idea thoroughly into the minds of men and women that they are paid from production and not from profits or capital and it will not be necessary to worry over industrial troubles in the United

States; but men must have an opportunity under a just leadership to work this idea out themselves. Most Americans are born in Missouri. They must be shown.

The National Industrial Conference Board sent five representative employers of labor to Europe to study industrial conditions after the war. Their final report is about ready to be issued. An interim report was made in August, and among its concluding observations are the following:

"Behind all mechanical devices for bringing employers and employees together there lies the necessity of first reaching a right attitude of mind. So far it has not been shown that joint councils or joint industrial conferences in themselves can, or have, brought about the desired attitude of mind. In themselves they are no remedy for discontent.

"Without doubt the main recommendation of your Commission to American industrialists is that each employer should regard it as his personal duty to establish direct and cordial relations with his workers.

"For us the point is that everything depends upon the spirit of humanity and sympathy which animates both parties to the wages contract.

"The employer must take the lead; much in the way of leadership is expected of him. If he is really at heart trying to raise the standard of living, as he ought, of his employees, he should moreover be occupied not only with questions of wages or material rewards but with matters which will cultivate the intelligence, morals and character of men. Granting this attitude of mind, then, there must be a corresponding point of view on the part of labor if any permanent and peaceful adjustment is to be accomplished."

The Hydraulic Pressed Steel Company of Cleveland, Ohio, in its published advertisements says:

"Four years ago we said to our people, — 'We are rapidly coming to a time when the phrase "Capital and Labor" will be forgotten. All those connected with a business will be banded together for the success of that business because each one connected with it will be getting that part of the success to which he is entitled.

"'The working out of this principle in our case has not been easy. We can, however, report these practical benefits, — a quality and economy of productions we had not known before, a growing measure of profit, and last but not least, a feeling of mutual content far beyond our hopes.

" ' To all those whose interests lie in industry we can say with confidence born of experience that the principle of a square deal with your own people based upon a thorough knowledge of all conditions affecting them, works; and works well.

" ' Men are square. This is not faith with us. It is Knowledge — Knowledge gained from day to day contact — Knowledge gained from the experience of hundreds — Knowledge common to every employer and to every workman who has gotten below the surface of things — who has come to know men as men, all moved by the same human impulses. Men are square — make no mistake of that.

" ' Our suggested solution is that Capital, Labor and Management in each industry work together for the protection of that industry and in every manufacturing plant appreciate that their real, vital interest is in the protection and fair division of the profit of that particular plant.

" ' We no longer think of detail as any matter for concern. Understanding, — mutual understanding, — mutual consideration and mutual respect, — these, and these only, make everything else possible. We have found men to be fair whether they contribute money, brains or muscle to the day's work.' "

DISCUSSION.

Sanford E. Thompson.* — I was in Cleveland last spring, at the time of the so-called Bolshevist riots, and a good many men marched through the streets. One of the most interesting things was to watch the attitude of the people on the sidewalks, — the rank and file of them. They were simply enraged at the marchers. I was told that in some sections they almost tore some of them to pieces. So I cannot but feel that in our country the real problem is not so much Bolshevism — the real problems are those such as Mr. Eglee has described. One of the most discouraging features of the labor movement in the past has been the direct aim of the labor unionists to restrict production. Now, one of the interesting features is the fact that, theoretically at least, many of the labor men — the labor leaders — are appreciating that for their own interest production should be increased. It is up to us all to develop and maintain this spirit. Of course, in many cases this is a theory, not practice; yet

* Of Thompson & Lichtner, 136 Federal Street, Boston, Mass.

theory does count in the long run. And we have this anomaly, — when business is brisk and every one is busy it is easy to believe in the value of increased production; it is easy to appreciate the fact that unless a man increases his production he can't have an increase in wages — that production is an absolute necessity for keeping up wages and keeping down the cost of living. But it is very hard, nevertheless, for the worker to live up to it because the demand for his service is so great that there is little incentive for even a fair day's work. On the other hand, just as soon as business drops, the theory is harder to appreciate. The workman thinks of his neighbor who has just been discharged because work is scarce. "There isn't enough work to go round," he says, to himself; "I'll reduce my production, and let the other fellow work too"; and unless we are right on the job with vigor and persuasion we shall have a return to the old idea of the workman that he will get more money if he works slowly.

Industrial coöperation, which Mr. Eglee has discussed, is certainly one of the most promising signs of the times. I listened a few days ago to the leader of the Rock Island Arsenal employees, where they are developing a plan for representation. He was very enthusiastic over the success of the plan. At the same conference representatives were present from a large private industry in the Middle West, where there is a similar plan in operation.

But along with all this is another essential. No matter how good an organization you may have, unless your factory is run in good shape you will not be able to be just to the men. It is a question how permanent will be the representative coöperation unless along with it comes the development of production methods that will give a square deal to the worker. For example, take an ordinary shoe shop. There you will find almost every day certain workers in one line or another laid off because there is not enough work; that is, the particular styles being made on that day cannot keep all the workers busy and so they are laid off. We see the same thing in other industries, — this unemployment within employment, — due to variation in the kind of work, which means lack of work in certain operations and also often lack of proper distribution of materials to the workers.

So there is idle time and loss of money to the workers, — for in many factories they are not paid for idle time, — and loss also to the factory through shortage of materials and faulty methods. And thus we must consider along with any plan, such as that of representation in the management, the question of production. These two things must be carried on together in order to ensure satisfactory industrial relations.

G. Edgar Folk.* — I am merely a visitor but have been greatly interested in the discussions. There are two things very clear in my mind. I believe that the men in industry to-day — I mean the heads of industry (at least the mass of them) — are absolutely honest in desire and endeavor to give a square deal. I believe the mass of workingmen, when you get down to the real man, can be trusted; but there is a class I cannot understand. They are not the ignorant leaders, but apparently well-bred and well-educated men, men who have had the advantage of college training and post-graduate work. Here is a statement I recently cut out of one of the bulletins headed by such men:

Our Industrial Union:

With all the coöperative and English classes and stamps and buttons, don't forget WHAT OUR UNION IS FOR! Our FIRST BIG JOB IS TO BEAT CAPITALISM and give all workingmen LIBERTY. When the boss is nice to you, don't be fooled. HE IS STILL YOUR BOSS! AND we must get rid of bosses. If you know of some department in your mill where the workers are dissatisfied, where they want to strike, tell us at the office.

— *Amalgamated Textile Union Bulletin No.* 4.

How are we to meet this problem?

R. A. Hale.† — We have in Lawrence, one of the large textile centers, 85 per cent. foreigners, possibly 45 to 50 different languages, and a very mixed population. The various corporations have coöperated within a few years and contributed a large fund towards forming industrial classes, which seems to be a step in the right direction towards the solution of the industrial problem. They have very large classes and are very enthusiastic. They are working along the line of getting in close contact with

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the men, which seems to be the practical way to do it. I know of one of the large mills that only runs at about 75 per cent. of its capacity, because it cannot get sufficient help, and the others are affected in a similar manner. They are all taking pains to educate the people and make better employees, with remarkable success. Now, with respect to the agitator. Two clergymen — one from Newton, I believe — came to Lawrence a short time ago and attempted to give these foreigners some advice, which was very ill-timed and did more towards prolonging the difficulties than it did towards settling them. But if the men are let alone they will do good work, and they are anxious to work. While the strike was on, a few hundred succeeded in keeping out thousands who wanted to go to work. A system of education has to be carried on among the employees by the corporations, and an interest manifested along the lines suggested by Mr. Eglee. The Lawrence Young Men's Christian Association has these industrial classes in charge through its industrial secretaries, and is accomplishing excellent results. Monthly meetings for the overseers and managers are held each month at the Y. M. C. A., at which, after the dinner, addresses are made by men who have specialized in some special lines of industrial work and general management.

J. P. Snow.* — The Society is certainly to be congratulated on being privileged to listen to Mr. Eglee's masterly presentation of this great subject, the greatest national question before our country at the present time.

America has helped in an effective way to win the war that should prevent future wars for settling national differences, and we now have the opportunity to show the world how to settle the industrial warfare that at present disturbs all civilization under the name of the labor question.

The address of the evening, and most of its oral discussion, is upon the line of general analysis of a theoretical or sentimental nature, very fundamental and essential but not concrete and applicable to a particular case. I shall try, herein, to show how the essence of the principles laid down by the speakers can be applied to industries in a businesslike way.

* Consulting Engineer, 18 Tremont Street, Boston.

It is conceded by all that capital and labor are both essential in any enterprise. In addition to these two interests, there must be consumers of the product if commercial success is the objective. These three interests, capital, labor and consumers, are recognized in the Industrial Conference referred to by the speaker of the evening as in session at Washington, under the group designations of owners, employees and the public.

If these parties have joint interests in a given enterprise, what is more logical and just than that they should function as copartners, real acting partners so far as their several interests shall appear? Let us examine these interests and see if a rational working basis can be deduced.

The interests of capital demand security of investment and a return commensurate with the risk; the commercial rate of interest if the security is perfect, more than this rate if chance is a factor. This return is the true wage of capital. The interests of labor demand a wage commensurate with the expenses of living on the accepted scale for the grade of labor under consideration. The interests of the consumers demand a product true to name and at a minimum reasonable price.

To insure that each of these demands is equally honored and provided for, it seems necessary that each interest should participate in the management, and no better basis of representation is apparent than that of equality.

If the enterprise is a commercial one whose objective is profit, equity requires that the two producing interests, capital and labor, should share in this profit according to the just interests of each. It is absurd for the consumer to share in profit, because, first, an individual's share cannot be delivered to him, and, second, it would be like taxing him for the purpose of paying back to him a moiety of his tax.

The basis of division of profits to these two interests should be proportionate to the sacrifice of each; and the measure of this sacrifice is the wage of each at the agreed-upon scale. The investment may be small compared to the pay-roll, like an express business; or it may be large, like a steel-making plant. Hence no division except on a pro-rata wage basis can be equitable.

Some writers claim that brains go with money to constitute

capital, but brains and money are in distinct classes. If the capitalist's brains go to the aid of the industry, with or without money, their value to the business should show on the pay-roll and be there accounted for exactly as should the workman's skill.

The fundamental principles, then, of a proper labor system are, sharing of management between owners, employees and the public, and division of profit between owners and employees according to businesslike and equitable schemes. This is radically different from our present system of hiring labor, and must be called a new labor system. Its two principles of partnership in management and in profits involve the surrender by the owners of privileges that are so fixed by custom as to appear righteous and justifiable. A close and fair analysis, however, shows that they are no more inherently just than is the right of slaveholding or the divine right of kings.

Our present system of hired labor is a direct derivation from, and an improvement on, the abject slavery of two thousand years ago in Rome. The serfdom of the feudal age, the farm tenant system of England and the hired labor of the present are all generically alike, while the partnership system advocated above is radically different. It realizes the Christian principle of the brotherhood of man to a degree as complete probably as our present state of culture will assimilate.

"There is no difference between hiring labor and buying labor," a prominent writer recently stated. I do not agree with him in this, but I do contend that they are in the same class, that they are both outgrown by our present stage of civilization and that partnership is the corner stone of the new order.

Although dimly realized by us because we are at the plexus of events and have no perspective, civilization is passing from one stage to a higher one. Among the milestones marking this change are the elimination of international war and the passing of the system of hired labor to the more humane system of partnership.

Privilege always dies hard. It required the French Revolution to extinguish the privilege of the Bourbons, the wars of Cromwell and of William III. to free England from the privilege

of the Stuart kings, the long struggle for reform to kill the rotten borough system of the English Parliament, and our Civil War to eliminate the privilege of the slaveholder in this country. The awful World War shows the cost of taking privilege from the Hohenzollerns and the military caste begat by the Teutonic knights of the Crusades. Will American owners of capital demand a price like these for the privilege of management and profits held by them since industry began, or will they peacefully pool their rights as did the thirteen states in 1787? And will the laboring class accept fair partnership or will it stand out for bloody Bolshevism which always leads to nowhere?

As furnishing a concrete example of the partnership principle set forth above, I submit an abstract from a plan for the reorganization of our railroads formulated by Prof. William G. Raymond, of Iowa State University. The problem consists of two phases, finance and labor; the latter only will be quoted here.

"Let a federal holding company be organized with a federal charter, which company is to absorb all administrative functions of the present Interstate Commerce Commission and of all state commissions so far as interstate railroads are concerned, and is to be allowed to function without respect to the Sherman Law or other conflicting laws which for the purpose of this organization are repealed. The organization of this holding company is described later. * * *

"The holding company will control the properties as one system, making proper rental or sale adjustments when facilities of one property are used jointly by two or more.

"Each separate property is to retain a separate management except as to jointly used facilities which shall have a joint management in which the several properties concerned shall be represented.

"These separate managements shall operate the separate properties to develop the best that can be developed in each, all, however, subject to the general policy control of the holding company. The principal office of each separate property shall be in some city reached by the main line of the property.

"On the directing staff of each separate property there shall be in addition to an ex-officio director from the holding company equal representation of owners of holding company preferred participating stock representing the stock of the particular property, and employees. The representatives of the employees

shall be so chosen as to give equal representation to train operatives, station and clerical operatives and maintenance of way and equipment operatives. The stockholders shall choose their directors, and the several groups of operatives shall choose each their respective directors. Preferably, there shall be but seven directors for each property, six chosen as above indicated and one as hereinafter provided for.

"A standard basic wage scale for all classes of employees shall be fixed by the holding company directors from year to year, adapted to the several sections of the country respectively in which the employees may serve or live. For this purpose the wage districts of the country shall conform to the operating districts hereinafter mentioned.

"The wage scale shall be stated in multiples of the lowest hourly rate. Some latitude is to be given to provide for the recognition of individual efficiency in each grade of service in each class. Change from year to year need be only in the primary unit except as inequities of assigned multiples may appear. The basic scale would be devised having in mind the division of profits provided for later.

"The standard wage shall be fixed in the first instance by the holding company directors in consultation with an equal number of delegates from the following railroad service departments:

"*a*. Trainmen, including road enginemen and firemen, and yard engine crews and men.

"*b*. Station and clerical service, including station agents, telegraphers, clerks, accountants, general office assistants and all other help not otherwise mentioned.

"*c*. Maintenance of way and equipment.

"The details of the selection of these representatives of labor are to be arranged, but the three classes are to have equal representation. * * *

"After consultation with respective separate property boards, rates shall be fixed by the directors of the holding company so as to be fair for each service in each district but such that the aggregate earnings of all properties of the country shall equal as nearly as may be the following sums:

"*a*. The aggregate of all costs of operation including wages and material and supplies for operation and maintenance, and including also proper allowance for depreciation for those items not properly maintained by the replacement method from year to year, and including also the cost of administration of the holding company.

"*b*. All interest on the funded and other debt of the separate properties.

"*c*. The stated interest on the preferred stock of the holding company.

"*d*. A surplus emergency fund allowance of five per cent. of the sum of items 1, 2 and 3 to be collected only until the surplus fund shall equal ten per cent. of the par value of the preferred participating stock of the holding company and thereafter to be collected at a rate only sufficient to maintain the surplus emergency fund at approximately ten per cent. of the preferred participating stock par value.

"*e*. A profit of not less than ten per cent. and not more than twenty per cent. of items 1, 2 and 3, calculated to be about fifteen per cent. in the beginning and to increase toward the higher limit as the sum of 1, 2 and 3 per unit of service is decreased and to decrease as the sum of 1, 2 and 3 per unit of service is increased, and in such proportion to be worked out as will penalize extravagance and reward economy.

"The net earnings of all properties shall be paid directly into the treasury of the holding company, each quarter. Deficits shall be reported and shall be met by draft on the surplus fund until such time as rates may be adjusted or the authority of Section 12 is exercised.

"The properties as such are to be tax exempt, except for special improvements from which they receive chief benefit, such tax payment being charged to capital. (This is based on the fact, not theory, that under the best modern public control the public always pays the taxes in the form of rates for service.) The holders of stocks and securities and the wage earners are to be subject to their usual local and federal income taxes and moneys and credit taxes.

"The holding company shall distribute cash equivalent to the net earnings as follows:

"Semiannually to pay the interest on the separate property bonds and other obligations.

"Semiannually to pay the stated interest on the holding company preferred stock.

"Semiannually to charge the surplus fund.

"Quarterly to pay the profits.

"The profits shall be distributed to the several properties in proportion to their net earnings, and the directors of the separate properties shall distribute the profits accruing to their respective properties to the stockholders and employees in a just proportion measured by the cost of money and the adjusted receipts of labor. The intent is to have each class share in pro-

portion to what it contributes. The stockholders contribute the cost of the money used, i.e., interest on debt and preferred stock, and the employees contribute service measured by what they receive at the basic wage rate.

"The surplus fund may be drawn upon from time to time or built up as may be necessary to maintain the profits between the minimum rate of ten per cent. and the maximum rate of twenty per cent. above mentioned; but the surplus fund shall never exceed ten per cent. of the par value of the holding company preferred stock for more than five consecutive years. The surplus fund to the extent deemed wise by the directors of the holding company is to be invested in approved quickly convertible securities, say government bonds. The earnings of the surplus fund as invested shall be added to the fund and when it appears to be growing regularly in excess of the maximum amount, rates shall be reduced accordingly. * * *

"The federal company shall be organized by twenty-four directors chosen as follows:

"Twelve to be appointed by the President of the United States, by and with the consent of the Senate, to serve for life or until permanently incapacitated, provided none shall serve after reaching his seventieth birthday. These to represent the people as patrons of the road. A long term less than life may be better, with retirement in rotation.

"Twelve men to represent the railroad interests and chosen, six by the organization of railway owners and six by employees. Two of the latter group are to be chosen by an organization of all trainmen and yardmen; two by the general operating officers of the companies to represent the clerical staff and station men, or by an organization of these men; two by an organization of the maintenance of way and maintenance of equipment employees.

"The terms of office of these twelve railroad representatives shall be the same as those of the members appointed by the President.

"Any member may be removed for cause from time to time by the appointing authority concerned. Vacancies will be filled as they occur, by the appropriate appointing authority.

"Each director of the corporation shall have one vote on all questions coming before the corporation."

At the sesquicentennial celebration of Dartmouth College, a few days ago, Justice W. P. Strafford, of the Supreme Court of the District of Columbia, in speaking of the issues before the country, said:

"We now stand face to face with a new riddle of the Sphinx. The question it propounds is one that we must answer if free government is to survive. That question is, how are the masses of men and women who labor with their hands to be secured out of the products of their toil what they will feel to be and will be in fact a fair return? Until we can answer that question we shall have no peace; and if we fail to answer it we shall have revolution.

"The question is not one that faces America alone; it faces Britain; it faces France; it faces Italy; it has torn Russia into pieces. Let us hope that our own country may be the one to find the true solution of the riddle, and thereby bring safety and freedom to the people of all lands."

The rule of the Theban Sphinx was that each passerby must guess its riddle, and if the guess was incorrect he died; if the riddle was correctly answered, the Sphinx itself died. Our sphinx is the labor question; the answer to its riddle is partnership based on the square deal and the Golden Rule, the brotherhood of man, the very essence of the Christian religion. If this answer is given, the question is solved and the problem dies, but if selfishness prevails and the answer is like Pharaoh's to the Children of Israel, red revolution may be our lot.

[Professor Johnson, Mr. Nichols, Mr. Titus, Mr. Larned and Professor Sanborn also spoke on the present industrial unrest and on measures which might be taken to better the situation.]

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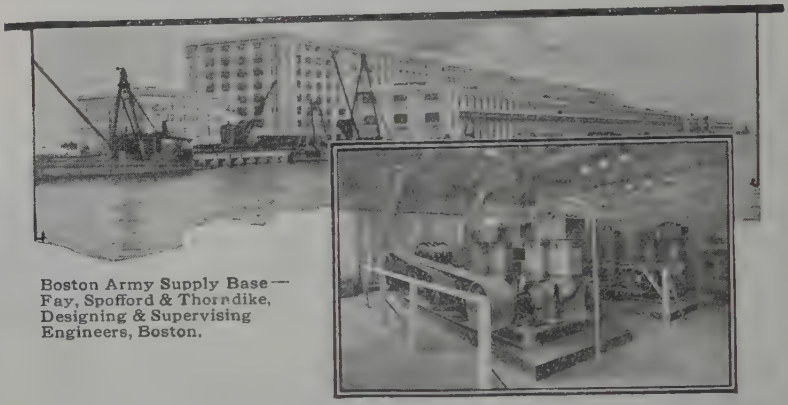

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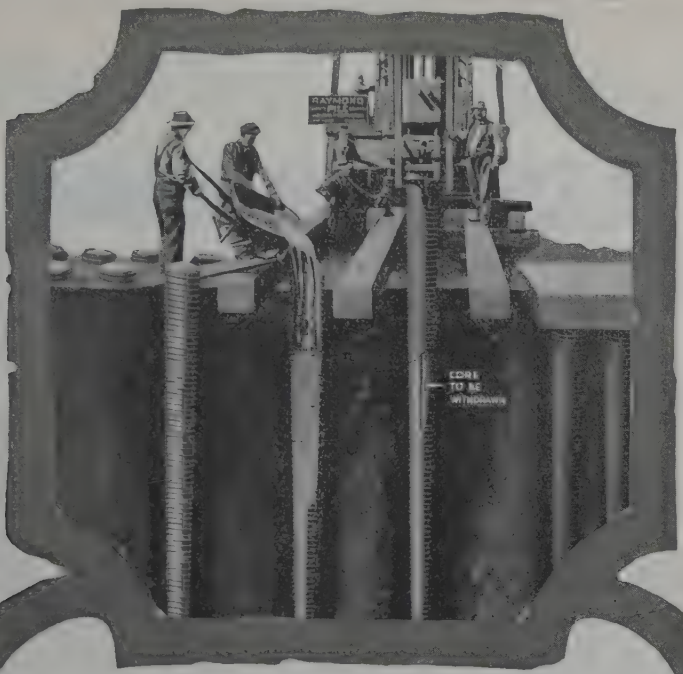

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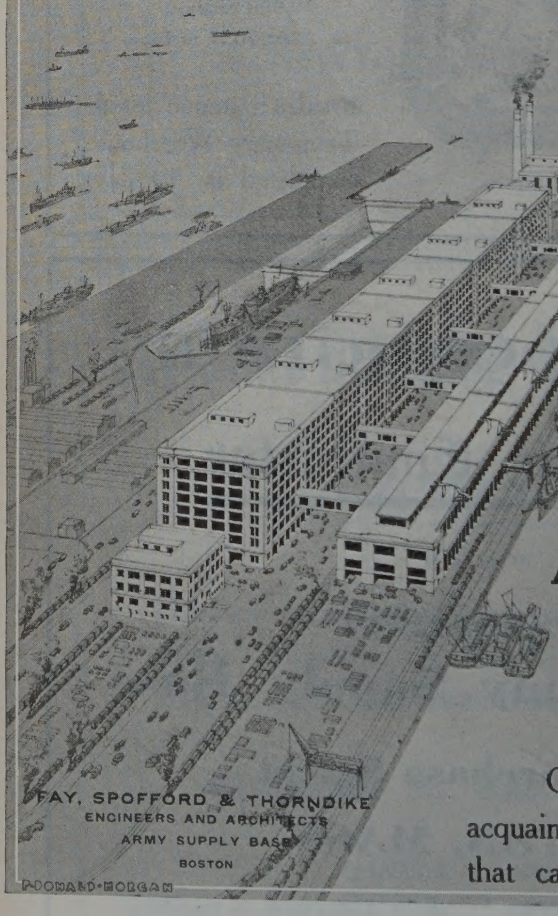

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